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Selected Physical and Chemical Characteristics of Dauphin Lake, Manitoba, 1983-1985

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Department of Fisheries and Oceans
Winnipeg, Manitoba R3T 2N6

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Canadian Data Report of Fisheries and Aquatic Sciences

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ABSTRACT

Babaluk, J.A., and M.K. Friesen. 1990. Selected physical and chemical characteristics of Dauphin Lake, Manitoba, 1983-1985. Can. Data Rep. Fish. Aquat. Sci. 789: iv + 25 p.

Selected physical and chemical data collected from surveys of Dauphin Lake, Manitoba during 1983-1985 are tabulated.

Key words: chlorophylls; chemical elements; lake survey; mercury; nutrients (mineral); secchi discs; water analysis; water temperature.

RÉSUMÉ

Babaluk, J.A., and M.K. Friesen. 1990. Selected physical and chemical characteristics of Dauphin Lake, Manitoba, 1983-1985. Can. Data Rep. Fish. Aquat. Sci. 789: iv + 25 p.

Contient certaines données physiques et chimiques obtenues au cours d'études du lac Dauphin, au Manitoba, pendant la période 1983-1985.

Mots-clés: chlorophylle; éléments chimiques; étude lacustre; mercure; éléments nutritifs (minéraux); disque de Secchi; analyse de l'eau; température de l'eau.

INTRODUCTION

From 1982-1985 surveys of selected physical and chemical characteristics of Dauphin Lake, Manitoba, were conducted by the Canada Department of Fisheries and Oceans. These surveys were part of a fisheries rehabilitation research program conducted on Dauphin Lake in co-operation with the Manitoba Department of Natural Resources. The objective of the program was to develop and test new biological and hydrological techniques for the rehabilitation of fisheries in the freshwaters of Canada. Emphasis was on the rehabilitation of the walleye, *Stizostedion vitreum vitreum* (Mitchill), one of the most economically important freshwater fish species in Canada (Scott and Crossman 1973).

Analyses and discussion of physical and chemical data collected from Dauphin Lake in 1982 appears in Babaluk and Friesen (in press). This report presents physical and chemical data collected during 1983-1985.

MATERIALS AND METHODS

DESCRIPTION OF THE STUDY AREA

Dauphin Lake is a remnant of glacial Lake Agassiz located in west central Manitoba (51° 17'N, 99°48'W) (Fig. 1). The lake and its drainage basin have been described by a number of researchers (Stewart-Hay 1951; Babaluk et al. 1984; Manitoba Water Commission 1984; Cobb and Flannagan 1987).

WATER SAMPLING

Water samples were collected and physical parameters were measured during the open water periods of 1983-1985, inclusive and once during the winter (March, 1983). The 21 stations selected for sampling are shown in Fig. 1. Stations were located by magnetic compass bearings and vessel or vehicle speed. Dates and stations sampled are listed in Table 1.

Water temperature profiles, dissolved oxygen concentrations and saturation levels of dissolved oxygen were determined. Water samples were collected and analysed for chlorophyll, pH and conductivity. Water transparency was measured. Water samples were collected and analysed for dissolved elements and nutrients. Methodologies for collecting and analysing the samples is described by Babaluk and Friesen (in press).

MERCURY

Although no water or sediment samples from Dauphin Lake were analysed for heavy metals, muscle tissue from 25 walleye collected from the Dauphin Lake commercial fishery in December, 1983 were analysed for mercury content at the Freshwater Institute Fish Inspection Laboratory.

DATA PRESENTATION

Physical and chemical data for 1983, 1984 and 1985 are presented in Tables 2,3 and 4, respectively. Analyses for elements and nutrients for 1983, 1984 and 1985 are presented in Tables 5, 6 and 7, respectively. Data for mercury levels in muscle tissue of individual walleye are reported in Table 8.

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REFERENCES

- BABALUK, J.A., B.M. BELCHER, and J.S. CAMPBELL. 1984. An investigation of the sport fishery on Dauphin Lake, Manitoba, 1982. Can. Manuscr. Rep. Fish. Aquat. Sci. 1777: iv + 23 p.
- BABALUK, J.A., and M.K. FRIESEN. 1990. Analyses of selected physical and chemical characteristics of Dauphin Lake, Manitoba. Can. Manuscr. Rep. Fish. Aquat. Sci. (in press).
- COBB, D.G., and J.F. FLANNAGAN. 1987. Aquatic invertebrate survey of the Dauphin Lake, Manitoba drainage basin, 1982. Can. Data Rep. Fish. Aquat. Sci. 625: iv + 16 p.
- MANITOBA WATER COMMISSION. 1984. Dauphin Lake regulation and siltation study. Manitoba Department of Natural Resources, Winnipeg.
- SCOTT, W.B., and E.J. CROSSMAN. 1973 (1979). Freshwater fishes of Canada (revised printing). Bull. Fish. Res. Board Can. 184: 966 p.
- STEWART-HAY, R.K.. 1951. A biological survey of Lake Dauphin. Manitoba Department of Mines and Natural Resources, Winnipeg.

Table 1. Dates and stations for collections of physical and chemical parameter data for water from Dauphin Lake, 1983-1985.

Year	Date	Stations sampled
1983	March 1,2	2,3,8,14,15,19,21; Fig. 1
	May 24-26	1-21, inclusive; "
	June 20-23	" " "
	July 18-20	" " "
	Aug. 15,17,18	" " "
	Sept. 26-28	5,9,12,16; "
1984	May 2,3	1-20, inclusive; Fig. 1
	June 3,5	" " "
	July 29,30	" " "
	Sept. 6,7	" " "
	Oct. 2,3	1,2,3,4,5,6,9,10,11,12; Fig. 1
1985	June 12	1,2,3,9,15,20; Fig. 1
	July 31	" "
	Oct. 2	" "

Table 2. Physical and chemical data, Dauphin Lake, 1983.

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g} \cdot \text{L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) $\text{mg} \cdot \text{L}^{-1}$	pH	Conductivity $\mu\text{S} \cdot \text{cm}^{-1}$
1	1.2	May 26	0.44	0.0	2.3	12.3	9.6 (89.7)	7.92	500
				1.0	2.4	12.3	9.7 (90.7)		
		June 20	0.70	0.0	3.0	21.2	8.3 (94.3)	8.22	490
				0.5	3.3	21.2	9.8 (111.4)		
		July 18	0.30	0.0	8.6	24.5	9.1 (109.6)	8.41	460
				1.0	7.8	22.2	10.4 (120.9)		
		Aug. 15	0.25	0.0	15.3	23.5	8.2 (97.6)	8.68	460
				1.0	17.1	23.3	8.2 (98.8)		
2	1.4	Mar. 1*	1.50	0.5	1.2	0.3	- -	7.92	780
				1.0	1.9	1.0	12.2 (85.9)		
		May 26	0.45	0.0	3.8	11.3	11.3 (103.7)	8.08	370
				1.0	3.6	11.2	11.0 (100.0)		
		June 20	0.40	0.0	3.6	21.5	9.3 (105.7)	8.40	450
				0.5	3.0	21.5	9.5 (108.0)		
		July 18	0.65	0.0	9.5	25.2	10.2 (125.9)	8.62	450
				1.0	9.4	24.8	8.7 (106.1)		
		Aug. 15	0.30	0.0	16.3	22.2	8.0 (94.1)	8.78	430
				1.0	16.9	23.2	8.1 (95.3)		
3	3.0	Mar. 1*	1.50	0.5	2.7	1.2	12.8 (90.1)	7.98	750
				2.0	1.8	3.2	13.1 (97.8)		
		May 26	0.40	0.0	4.9	8.0	12.2 (103.4)	7.92	340
				1.0	4.7	7.9	12.5 (105.0)		
		June 20	0.35	0.0	5.7	7.9	12.5 (105.0)	8.42	420
				1.0	4.1	20.3	9.5 (105.6)		
		July 18	0.35	0.0	4.4	20.2	9.5 (105.6)	8.59	460
				1.0	4.6	19.9	9.2 (102.2)		
		Aug. 15	0.30	0.0	8.8	24.5	8.4 (101.2)	8.81	430
				1.0	11.0	24.4	8.6 (103.6)		
				2.0	8.4	24.0	8.6 (103.6)		
				0.0	23.9	23.1	7.6 (89.4)		
4	3.0	May 26	0.39	0.0	5.3	8.0	- -	7.94	310
				1.0	6.6	8.0	- -		
		June 20	0.30	0.0	8.3	8.0	12.7 (107.6)	8.36	430
				1.0	3.4	20.3	9.5 (106.7)		
		July 18	0.30	0.0	3.3	20.3	9.5 (106.7)	8.60	460
				1.0	4.1	19.0	9.0 (97.7)		
		Aug. 15	0.25	0.0	8.2	25.0	8.6 (104.8)	8.74	420
				1.0	8.8	24.5	8.6 (104.8)		
				2.0	6.6	24.0	7.3 (87.9)		
				0.0	30.5	23.0	7.6 (89.4)		
5	1.3	May 26	0.44	0.0	10.1	12.5	11.7 (110.3)	8.18	400
				0.5	6.2	12.5	11.8 (111.3)		
		June 23	0.40	0.0	4.1	21.0	8.4 (95.4)	8.36	480
				1.0	5.1	20.8	8.4 (95.4)		
		July 19	0.40	0.0	5.1	29.2	9.8 (130.6)	8.68	470
				1.0	7.0	24.8	8.6 (104.8)		
		Aug. 15	0.25	0.0	13.3	23.8	7.9 (95.1)	8.74	440
				1.0	6.6	23.7	- -		

Table 2. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
6	3.0	May 24	0.62	0.0	1.9	9.0	12.7 (110.4)	8.14	450
				1.0	2.1	8.2	12.7 (101.0)		
				2.0	2.9	7.8	12.6 (105.8)		
		June 23	0.40	0.0	4.1	21.3	8.8 (100.0)	8.44	460
				1.0	4.4	19.8	8.9 (98.8)		
				2.0	6.3	19.6	8.5 (93.4)		
		July 20	0.50	0.0	12.7	25.4	8.4 (103.7)	8.68	440
				1.0	10.6	24.5	8.4 (101.2)		
				2.0	8.9	24.0	8.1 (100.9)		
		Aug. 15	0.20	0.0	25.8	23.0	7.6 (100.8)	8.68	460
				1.0	26.4	23.0	6.7 (100.7)		
				2.0	27.2	23.0	7.4 (100.8)		
7	1.3	May 24	0.30	0.0	1.0	12.3	10.0 (100.9)	8.20	530
				1.0	1.3	12.0	9.8 (91.5)		
		June 21	0.50	0.0	4.7	20.4	8.7 (97.7)	8.38	480
				1.0	5.2	20.3	8.5 (95.5)		
		July 20	0.75	0.0	13.9	25.0	8.4 (102.4)	8.72	450
				1.0	9.3	23.5	8.0 (95.2)		
		Aug. 18	0.45	0.0	8.6	24.0	8.7 (104.8)	8.73	440
				1.0	12.2	23.9	8.6 (103.6)		
8	3.1	March 2*	-	0.5	1.4	0.5	10.6 (73.6)	7.92	790
				1.5	1.6	1.5	10.9 (77.8)		
				2.5	1.8	1.5	10.9 (77.8)		
		May 24	0.70	0.0	2.4	6.8	12.8 (104.9)	8.12	420
				1.0	1.8	6.5	12.8 (104.0)		
				2.0	2.4	6.5	12.9 (104.8)		
		June 21	0.45	0.0	4.3	19.9	8.6 (95.5)	8.36	390
				1.0	2.8	19.8	8.4 (93.3)		
				2.0	3.1	19.5	-		
		July 20	0.65	0.0	27.8	26.3	9.5 (120.2)	8.72	430
				1.0	14.5	24.1	10.0 (120.4)		
				2.0	8.4	23.8	9.3 (112.0)		
		Aug. 18	0.40	0.0	23.8	23.1	8.5 (101.1)	8.72	440
				1.0	12.5	23.1	8.6 (102.3)		
				2.0	26.4	23.0	8.5 (100.0)		
9	3.3	May 24	0.78	0.0	2.3	9.0	13.0 (113.0)	8.20	430
				1.0	2.9	8.0	13.4 (113.5)		
				2.2	4.5	7.3	13.4 (111.6)		
		June 21	0.40	0.0	3.3	20.7	8.3 (93.2)	8.30	370
				1.0	3.9	20.7	8.6 (96.6)		
				2.0	3.3	19.2	8.4 (92.3)		
		July 20	0.65	0.0	15.3	26.0	9.2 (115.0)	8.75	440
				1.0	10.5	24.0	9.6 (115.6)		
				2.2	6.3	23.4	9.2 (109.5)		
		Aug 18	0.35	0.0	20.3	23.0	8.1 (95.2)	8.69	430
				1.0	19.1	23.0	9.0 (105.8)		
				2.1	19.5	22.6	8.5 (100.0)		
		Sept. 26	0.25	0.0	12.2	10.5	11.9 (107.2)	8.42	450
				1.0	11.4	10.5	11.3 (101.8)		
				2.0	11.7	9.0	11.7 (101.7)		
10	3.4	May 24	0.60	0.0	4.1	9.2	14.0 (122.8)	8.44	430
				1.0	4.8	8.8	14.1 (121.5)		
				2.2	4.4	8.0	14.5 (122.8)		

Table 2. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
10(cont.)	3.4	June 21	0.45	0.0	4.9	20.7	8.8 (98.8)	8.40	440
				1.0	3.8	20.7	9.0 (101.1)		
				2.5	4.3	19.4	8.5 (93.4)		
		July 20	0.65	0.0	9.3	26.0	8.6 (107.5)	8.70	440
				1.0	8.4	23.5	8.8 (104.7)		
				2.2	4.7	23.0	8.2 (96.4)		
		Aug. 18	0.35	0.0	20.6	22.7	8.0 (94.1)	8.65	510
				1.0	21.3	22.8	8.9 (94.1)		
				2.1	19.7	22.6	7.9 (92.9)		
11	3.3	May 24	0.55	0.0	4.1	10.5	14.5 (130.6)	8.48	440
				1.0	4.9	9.0	14.5 (126.0)		
				2.1	3.1	7.9	14.4 (122.0)		
		June 21	0.47	0.0	4.1	20.7	8.8 (98.8)	8.40	470
				1.0	3.9	20.5	8.9 (100.0)		
				2.5	5.4	19.0	8.6 (93.4)		
		July 20	0.65	0.0	6.3	25.2	8.4 (103.7)	8.66	450
				1.0	5.9	24.5	8.5 (103.6)		
				2.2	4.4	23.2	8.2 (97.6)		
		Aug. 18	0.25	0.0	18.1	22.9	8.9 (94.1)	8.68	440
				1.0	18.8	22.9	8.1 (95.2)		
				2.2	22.5	22.9	8.0 (94.1)		
12	1.5	May 24	0.70	0.0	2.6	14.0	13.0 (127.4)	8.38	460
				1.0	2.2	13.0	13.0 (123.8)		
				1.0	3.9	23.9	8.6 (103.6)		
		June 21	0.50	0.0	3.9	23.9	8.6 (103.6)	8.48	480
				1.0	2.0	22.4	8.7 (101.1)		
				0.0	22.8	29.0	10.0 (133.3)		
		July 19	0.40	0.0	6.6	26.0	10.0 (125.0)	8.68	430
				1.0	15.0	23.0	8.5 (100.0)		
				1.0	33.4	23.1	8.2 (97.6)		
		Sept. 27	0.23	0.0	19.4	14.0	11.7 (114.7)	8.44	450
				1.0	20.5	13.4	12.2 (117.3)		
13	1.4	May 25	0.45	0.0	2.3	11.7	11.1 (102.7)	8.22	590
				1.0	2.2	11.4	11.3 (103.6)		
				1.3	3.1	11.2	11.3 (103.6)		
		June 22	0.80	0.0	6.3	20.9	8.2 (93.1)	8.21	510
				0.5	4.1	20.9	8.2 (93.1)		
				0.0	12.4	24.1	8.4 (101.2)		
		July 19	0.65	0.0	10.8	24.0	8.8 (106.0)	8.69	500
				1.0	9.7	21.3	7.2 (82.7)		
				1.0	9.4	21.3	7.5 (86.2)		
		Aug. 17	0.60	0.0				8.69	440
14	3.0	Mar. 2*	2.00	0.5	1.1	0.8	13.9 (97.2)	7.98	710
				1.8	1.3	1.8	-		
				1.0	2.7	10.5	11.7 (105.4)		
		May 25	0.52	0.0	2.1	10.8	11.6 (105.4)	8.18	510
				1.0	2.7	10.5	11.7 (105.4)		
				2.0	2.0	10.2	11.8 (105.3)		
		June 22	0.60	0.0	4.5	20.1	8.3 (92.2)	8.38	460
				1.0	2.8	20.1	8.3 (92.2)		
				0.0	18.8	23.5	9.6 (114.2)		
		July 19	0.75	0.0	18.0	23.2	9.2 (109.5)	8.89	430
				1.0	13.4	22.5	9.4 (110.5)		
				2.2	15.8	-	7.5 -		
		Aug. 17	0.45	0.0	13.3	-	6.9 -	8.67	440
				1.0					

Table 2. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g} \cdot \text{L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) $\text{mg} \cdot \text{L}^{-1}$	pH	Conductivity $\mu\text{S} \cdot \text{cm}^{-1}$
14 (cont.)	3.0	Aug. 17	0.45	2.0	13.1	-	7.3 -		
15	3.3	Mar. 2*	1.90	0.5 2.0	1.0 0.6	0.9 3.0	- -	7.96	670
		May 25	0.88	0.0 1.0 2.3	3.0 1.9 1.7	10.5 10.2 10.0	12.1 (109.0) 12.2 (108.9) 12.4 (110.7)	8.16	490
		June 22	0.55	0.0 1.0	3.4 3.6	20.0 20.0	8.4 (93.3) 8.6 (95.5)	8.34	390
		July 19	0.65	0.0 1.0 2.3	20.9 15.6 13.4	23.9 23.6 22.6	10.0 (120.4) 9.8 (116.6) 9.2 (108.2)	8.91	430
		Aug. 17	0.30	0.0 1.0 2.0	15.8 14.4 16.3	- - -	7.5 7.8 7.7	8.64	450
16	3.3	May 25	1.20	0.0 1.0 2.5	2.7 1.7 1.1	11.0 10.5 10.3	12.1 (110.0) 12.2 (109.9) 12.2 (109.9)	8.20	490
		June 22	0.50	0.0 1.0	3.9 4.1	20.1 20.0	8.8 (97.7) 8.4 (93.3)	8.36	400
		July 19	0.55	0.0 1.0 2.2	8.1 5.6 7.6	24.3 23.9 23.3	8.8 (107.3) 9.0 (108.4) 8.8 (104.7)	8.74	440
		Aug. 17	0.35	0.0 1.0 2.0	13.9 24.9 15.9	- - -	7.8 8.0 7.5	8.66	420
		Sept. 27	0.36	0.0 1.0 2.0	14.4 14.7 15.1	10.1 10.1 10.1	11.4 (101.7) 11.3 (100.8) 11.5 (102.6)	8.42	450
17	2.6	May 25	1.00	0.0 1.0 2.3	1.4 - 1.6	11.2 11.2 10.5	12.0 (110.0) 11.9 (109.1) 12.0 (108.1)	8.20	480
		June 22	0.35	0.0 1.0	4.6 3.9	21.3 21.3	8.5 (97.7) 8.0 (91.9)	8.40	420
		July 19	0.50	0.0 1.0 1.5	8.5 3.5 6.6	25.5 24.7 24.3	8.8 (108.6) 9.2 (112.1) 9.3 (113.4)	8.72	440
		Aug. 17	0.60	0.0 1.0 2.0	24.4 25.8 19.5	22.8 22.2 22.0	8.6 (101.1) 8.4 (97.6) 7.8 (90.6)	8.75	420
18	1.3	May 25	0.62	0.0 1.0	1.4 1.8	13.5 12.3	12.1 (117.4) 12.4 (116.9)	8.20	480
		June 22	0.30	0.0 0.5	8.9 7.9	22.0 22.0	8.1 (94.1) 8.2 (95.3)	8.33	430
		July 19	0.55	0.0 1.0	8.9 6.1	24.3 24.2	9.0 (109.7) -	8.74	450
		Aug. 17	0.70	0.0 1.0	19.2 22.2	24.0 22.1	8.9 (107.2) 7.6 (88.3)	8.74	430
19	2.9	Mar. 2*	1.80	0.5 2.0	0.8 0.9	1.0 2.9	12.9 (90.2) 12.9 (95.5)	7.92	670
		May 25	1.00	0.0	1.3	11.3	12.5 (114.6)	8.20	470

Table 2. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g}\cdot\text{L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) $\text{mg}\cdot\text{L}^{-1}$	pH	Conductivity $\mu\text{S}\cdot\text{cm}^{-1}$
19 (cont.)	2.9	May 25	1.00	1.0	1.6	11.3	12.6 (115.5)		
				2.0	0.9	11.3	12.5 (114.6)		
		June 22	0.45	0.0	3.9	20.1	8.4 (93.3)	8.32	380
				1.0	4.2	20.1	8.4 (93.3)		
		July 19	0.65	0.0	25.1	26.3	10.0 (126.5)	8.89	420
				1.0	15.6	24.0	10.4 (125.3)		
				2.0	16.3	23.4	10.0 (119.0)		
		Aug. 17	0.25	0.0	16.6	25.1	6.4 (79.0)	8.68	430
				1.0	19.1	21.7	8.3 (95.4)		
				1.9	19.7	21.5	7.3 (83.9)		
20	1.7	May 25	1.00	0.0	1.4	12.0	12.4 (115.8)	8.20	460
				1.0	1.6	12.0	12.4 (115.8)		
				1.5	1.9	11.9	12.4 (115.8)		
		June 22	0.45	0.0	3.3	20.5	8.4 (94.3)	8.34	440
				1.0	3.7	20.4	8.4 (94.3)		
		July 19	0.50	0.0	22.3	25.8	11.2 (140.0)	8.91	410
				1.0	20.8	25.2	10.0 (123.4)		
		Aug. 17	0.25	0.0	16.9	24.8	8.6 (104.8)	8.64	440
				1.0	13.4	21.5	8.9 (102.2)		
21	1.5	May 26	0.62	0.0	4.5	11.1	10.9 (100.0)	8.06	400
				1.0	6.6	11.1	11.0 (100.9)		
		June 20	0.75	0.0	2.3	21.6	9.5 (109.1)	8.38	450
				1.0	2.2	21.5	9.5 (109.1)		
		July 18	0.60	0.0	8.4	25.0	8.8 (108.6)	8.73	470
				1.0	8.9	24.9	9.0 (111.1)		
		Aug. 15	0.25	0.0	14.7	23.0	7.7 (90.5)	8.72	420
				1.0	13.1	23.0	7.9 (92.9)		

* Sampled through ice.

Table 3. Physical and chemical data, Dauphin Lake, 1984.

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$		
1	1.2	May 3	0.28	0.0	5.1	4.0	12.0 (91.6)	-	420		
				0.5	4.8	3.8	12.4 (93.9)				
				1.0	-	3.1	-				
		June 3	0.10	0.0	9.8	17.7	9.8 (115.3)	6.95	330		
				0.5	9.9	17.7	9.8 (115.3)				
				1.0	-	17.0	-				
		July 29	0.54	0.0	11.9	23.5	7.4 (88.1)	7.85	395		
				0.5	11.4	23.8	7.5 (89.3)				
				1.0	-	23.8	-				
		Sept. 6	0.30	0.0	16.9	13.9	9.9 (96.1)	8.50	438		
				0.5	19.3	13.9	9.6 (93.2)				
				1.0	-	13.9	-				
		Oct. 2	0.10	0.0	19.5	6.5	11.4 (92.7)	8.10	440		
				0.5	19.6	6.5	11.5 (93.5)				
				1.0	-	6.5	-				
2	1.4	May 3	No samples collected due to ice conditions.								
		June 3	0.12	0.0	7.6	16.5	9.6 (99.0)	6.95	335		
				0.5	9.9	16.5	9.8 (101.0)				
				1.0	-	16.1	-				
		July 29	0.66	0.0	6.1	23.9	7.8 (92.9)	8.20	390		
				0.5	5.2	23.9	7.7 (91.7)				
				1.0	-	23.5	-				
		Sept. 6	0.31	0.0	17.7	14.0	9.3 (90.3)	8.40	435		
				0.5	17.6	14.0	9.4 (91.3)				
				1.0	-	14.0	-				
		Oct. 2	0.19	0.0	16.2	6.5	11.5 (93.5)	8.00	455		
				0.5	15.1	6.5	11.5 (93.5)				
				1.0	-	6.5	-				
		3	2.3	May 3	0.25	0.0	4.3	4.7	13.6 (105.4)	-	425
						0.5	-	4.7	-		
1.0	6.5					4.5	11.6 (89.2)				
1.7	6.7					4.2	14.5 (110.7)				
2.0	-					4.0	-				
2.4	-					4.0	-				
June 3	0.11			0.0	8.8	15.5	9.6 (97.0)	6.95	345		
				0.5	-	15.5	-				
				1.0	10.1	15.3	9.5 (96.9)				
				1.7	12.2	15.3	9.5 (96.9)				
				2.0	-	15.1	-				
				2.4	-	14.4	-				
July 29	0.48			0.0	7.4	23.5	7.4 (88.1)	7.60	390		
				0.5	-	23.5	-				
				1.0	9.9	23.5	7.4 (88.1)				
				1.7	8.4	23.3	7.2 (84.7)				
				2.0	-	23.3	-				
				2.4	-	23.1	-				
Sept. 6	0.18			0.0	17.2	14.0	9.5 (92.2)	8.40	438		
				0.5	-	14.0	-				
				1.0	21.4	14.0	9.5 (92.2)				
				1.7	23.5	14.0	9.4 (91.3)				
				2.0	-	14.0	-				
				2.4	-	14.0	-				
Oct. 2	0.10			0.0	16.4	6.5	11.5 (93.5)	8.10	436		
				0.5	-	6.5	-				
				1.0	23.1	6.5	11.7 (95.1)				
				1.5	-	6.5	-				
				2.0	-	6.5	-				
				2.0	-	6.5	-				

Table 3 continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S}\cdot\text{cm}^{-1}$
4	2.3	May 3	0.24	0.0	7.0	4.8	-	-	380
				0.5	-	4.8	-		
				1.0	6.9	4.1	-		
				1.7	7.1	4.0	-		
				2.0	-	4.0	-		
				2.4	-	4.0	-		
		June 3	0.10	0.0	14.9	15.8	-	6.99	445
				0.5	-	15.7	-		
				1.0	13.8	15.8	-		
				1.7	14.8	15.7	-		
				2.0	-	15.6	-		
				2.4	-	15.6	-		
		July 29	0.46	0.0	11.3	23.5	-	7.30	400
				0.5	-	23.5	-		
				1.0	8.7	23.3	-		
				1.7	10.5	23.3	-		
				2.0	-	23.3	-		
				2.4	-	23.1	-		
		Sept. 6	0.18	0.0	19.9	14.1	-	8.30	441
				0.5	-	14.1	-		
				1.0	18.8	14.1	-		
				1.7	15.1	14.1	-		
				2.0	-	14.1	-		
				2.4	-	14.1	-		
		Oct. 2	0.08	0.0	21.4	7.0	-	8.00	455
				0.5	-	7.0	-		
				1.0	24.3	7.0	-		
				1.5	-	7.0	-		
				2.0	-	7.0	-		
				2.4	-	7.0	-		
5	1.2	May 3	0.25	0.0	5.4	7.5	11.4 (95.0)	-	425
				0.5	5.5	7.3	12.7 (105.0)		
				0.9	-	7.3	-		
		June 3	0.10	0.0	9.9	17.0	9.5 (99.0)	7.01	430
				0.5	9.9	16.8	9.1 (93.8)		
				1.0	-	16.6	-		
		July 29	0.30	0.0	10.3	25.1	7.4 (90.2)	7.85	390
				0.5	11.0	24.9	7.2 (87.8)		
				1.0	-	24.9	-		
		Sept. 6	0.18	0.0	23.8	14.5	9.4 (92.2)	8.50	430
				0.5	22.3	14.1	9.5 (93.1)		
				1.0	-	14.1	-		
		Oct. 2	0.05	0.0	21.4	7.0	11.5 (95.0)	8.10	450
				0.5	19.4	7.0	11.4 (94.2)		
				1.0	-	7.0	-		
6	2.4	May 3	0.25	0.0	3.8	7.0	-	-	418
				0.5	-	4.8	-		
				1.0	4.2	4.5	-		
				1.5	-	4.0	-		
				1.8	4.8	4.0	-		
				2.5	-	3.8	-		
		June 5	0.21	0.0	11.5	17.0	-	6.99	415
				0.5	-	-	-		
				1.0	8.0	-	-		
				1.7	9.1	-	-		
				0.0	10.1	24.2	-		
				0.5	-	24.2	-		
		July 29	0.44	0.0	8.6	24.1	-	7.75	370
				0.5	-	24.1	-		
				1.0	8.4	24.1	-		
				1.7	-	23.9	-		
				2.0	-	23.2	-		
				2.5	-	23.2	-		

Table 3. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
6(cont.)		Sept. 7	0.16	0.0	32.4	16.1	-	8.60	435
				0.5	-	15.9	-		
				1.0	21.2	15.0	-		
				1.7	22.5	15.0	-		
				2.0	-	15.0	-		
		Oct. 2	0.08	0.0	24.1	7.5	11.5 (95.8)	8.10	441
				0.5	-	7.5	-		
				1.0	23.6	7.5	11.0 (91.7)		
				1.5	-	7.5	-		
				2.0	-	7.5	-		
7	1.3	May 2	0.24	0.0	5.3	8.0	12.2 (103.4)	8.26	410
				0.5	4.9	7.9	11.9 (100.0)		
				0.9	-	7.4	-		
		June 5	0.20	0.0	5.9	17.0	7.8 (81.3)	7.00	420
				0.5	6.2	17.0	8.8 (91.7)		
				0.9	-	17.0	-		
		July 29	0.40	0.0	8.0	24.9	7.2 (87.8)	7.75	390
				0.5	7.1	24.9	7.5 (91.5)		
				1.0	-	24.9	-		
		Sept. 7	0.18	0.0	17.6	14.9	8.7 (86.1)	8.40	410
				0.5	18.9	14.9	8.9 (88.1)		
				1.0	-	14.9	-		
8	2.5	May 2	0.25	0.0	4.0	5.0	-	-	415
				0.5	-	4.3	-		
				1.0	4.2	4.2	-		
				1.5	-	3.5	-		
				1.8	4.8	3.5	-		
		June 5	0.20	2.4	-	3.3	-	7.00	440
				0.0	6.1	16.3	-		
				0.5	-	16.3	-		
				1.0	5.8	16.3	-		
				1.5	-	16.3	-		
		July 29	0.38	1.8	6.5	16.2	-	7.85	390
				2.5	-	16.0	-		
				0.0	10.3	24.8	-		
				0.5	-	24.7	-		
				1.0	10.6	24.7	-		
		Sept. 7	0.16	1.5	-	24.7	-	8.40	445
				1.8	10.1	24.7	-		
				2.5	-	24.5	-		
				0.0	20.0	14.8	-		
				0.5	-	14.8	-		
9	2.7	May 2	0.25	1.0	23.8	14.8	-	8.26	450
				1.5	-	14.8	-		
				1.8	19.7	14.8	-		
				2.3	-	14.8	-		
		June 5	0.20	0.0	2.9	4.0	12.3 (93.9)	6.99	410
				0.5	-	4.2	-		
				1.0	4.2	3.5	11.1 (83.5)		
				1.5	-	3.3	-		
				1.8	3.9	3.3	11.3 (84.3)		
				2.5	-	3.3	-		
				0.0	9.5	16.2	8.8 (89.8)		
				0.5	-	16.2	-		
				1.0	8.0	16.1	8.3 (84.7)		
				1.5	-	16.0	-		
				1.8	5.7	16.0	8.6 (87.8)		
				2.5	-	15.9	-		

Table 3. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g} \cdot \text{L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) $\text{mg} \cdot \text{L}^{-1}$	pH	Conductivity $\mu\text{S} \cdot \text{cm}^{-1}$
9(cont.)		July 29	0.40	0.0	6.5	24.2	7.5 (86.7)	8.10	380
				0.5	-	24.1	-		
				1.0	7.5	24.1	7.5 (86.7)		
				1.5	-	24.1	-		
				1.9	6.7	24.0	7.5 (86.7)		
				2.5	-	23.9	-		
		Sept. 7	0.16	0.0	20.2	14.8	9.1 (90.1)	8.55	458
				0.5	-	14.8	-		
				1.0	21.4	14.8	9.1 (90.1)		
				1.5	-	14.5	-		
				1.8	21.3	14.5	9.3 (88.6)		
				2.5	-	14.2	-		
		Oct. 3	0.16	0.0	12.6	6.5	-	8.10	441
				0.5	-	6.5	-		
				1.0	13.8	6.5	-		
				1.5	-	6.5	-		
				2.0	-	6.5	-		
				2.5	-	7.0	-		
10	2.7	May 2	0.27	0.0	4.7	4.0	-	-	420
				0.5	-	4.5	-		
				1.0	4.2	4.0	-		
				1.5	-	3.9	-		
				1.8	4.5	3.6	-		
				2.5	-	3.6	-		
		June 5	0.22	0.0	8.7	16.4	-	6.99	410
				0.5	-	16.4	-		
				1.0	8.5	16.4	-		
				1.5	-	16.3	-		
				1.8	8.8	16.3	-		
				2.5	-	16.0	-		
		July 29	0.33	0.0	7.4	24.5	-	7.80	380
				0.5	-	24.1	-		
				1.0	8.4	24.1	-		
				1.5	-	24.1	-		
				1.9	7.8	24.0	-		
				2.5	-	23.8	-		
		Sept. 7	0.14	0.0	20.5	14.8	-	8.50	455
				0.5	-	14.8	-		
				1.0	20.6	14.8	-		
				1.5	-	14.8	-		
				1.8	21.1	14.8	-		
				2.5	-	14.8	-		
		Oct. 3	0.15	0.0	15.6	6.5	-	8.20	435
				0.5	-	6.5	-		
				1.0	15.8	6.5	-		
				1.5	-	6.5	-		
				2.0	-	6.9	-		
				2.5	-	6.9	-		
11	2.7	May 3	0.28	0.0	3.7	10.1	-	-	445
				0.5	-	8.8	-		
				1.0	4.3	6.0	-		
				1.7	7.9	4.6	-		
				2.0	-	4.0	-		
				2.5	-	4.0	-		
		June 5	0.25	0.0	7.1	16.4	-	6.98	410
				0.5	-	16.3	-		
				1.0	7.0	16.3	-		
				1.5	-	16.3	-		

Table 3. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
11(cont.)				1.8	10.3	16.3	-		
				2.5	-	16.3	-		
		July 29	0.30	0.0	7.4	24.7	-	7.70	375
				0.5	-	24.5	-		
				1.0	8.0	24.5	-		
				1.5	-	24.5	-		
				2.0	8.4	24.5	-		
				2.5	-	24.2	-		
		Sept. 7	0.15	0.0	20.8	14.9	-	8.50	438
				0.5	-	14.9	-		
				1.0	22.1	14.9	-		
				1.7	18.8	14.9	-		
				2.0	-	14.9	-		
				2.5	-	14.9	-		
		Oct. 3	0.15	0.0	14.4	7.0	-	8.20	450
				0.5	-	7.0	-		
				1.0	14.5	7.0	-		
				1.5	-	7.0	-		
				2.0	-	7.0	-		
				2.5	-	7.0	-		
12	1.1	May 3	0.23	0.0	3.8	9.9	11.7 (103.5)	8.33	470
				0.5	4.2	9.0	12.8 (110.3)		
				1.0	-	7.0	-		
		June 5	0.20	0.0	9.4	17.0	8.9 (92.7)	6.98	410
				0.5	9.7	16.3	9.0 (91.8)		
				1.0	-	16.3	-		
		July 29	0.25	0.0	12.4	25.1	7.6 (92.7)	7.80	375
				0.5	14.2	26.2	7.9 (98.8)		
				1.0	-	26.1	-		
		Sept. 7	0.14	0.0	8.4	15.5	9.4 (94.9)	8.50	410
				0.5	8.4	15.5	9.4 (94.9)		
				1.0	-	15.5	-		
		Oct. 3	0.10	0.0	7.1	7.5	11.0 (91.7)	8.20	420
				0.5	6.6	7.5	11.1 (92.5)		
				1.0	-	7.5	-		
13	1.2	May 2	0.27	0.0	4.6	1.5	12.6 (89.4)	-	330
				0.5	4.2	1.5	12.6 (89.4)		
				1.0	-	2.0	-		
				1.5	-	2.4	-		
		June 5	0.22	0.0	5.6	17.0	9.1 (94.8)	7.01	405
				0.5	5.3	17.0	9.1 (94.8)		
				1.0	-	17.0	-		
		July 30	0.42	0.0	8.7	24.2	-	8.10	345
				0.5	7.2	24.2	-		
				1.0	-	24.2	-		
		Sept. 7	0.36	0.0	13.4	16.2	9.5 (96.9)	8.30	400
				0.5	18.6	16.2	9.5 (96.9)		
				1.0	-	16.2	-		
14	2.7	May 2	0.23	0.0	4.6	3.1	-	-	360
				0.5	-	3.0	-		
				1.0	4.5	3.0	-		
				1.5	-	3.0	-		
				1.8	4.6	3.0	-		
				2.5	-	3.5	-		
		June 5	0.24	0.0	6.3	16.8	-	6.99	400
				0.5	-	16.5	-		
				1.0	6.3	16.5	-		
				1.5	-	16.6	-		

Table 3. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
14(cont.)				1.9	7.1	16.5	-		
				2.5	-	16.5	-		
		July 30	0.30	0.0	23.3	24.3	-	8.00	360
				0.5	-	24.3	-		
				1.0	22.6	24.3	-		
				1.5	-	24.3	-		
				1.9	21.8	24.3	-		
				2.5	-	24.3	-		
		Sept. 7	0.16	0.0	24.3	15.6	-	8.50	420
				0.5	-	15.6	-		
				1.0	20.1	15.6	-		
				1.5	-	15.6	-		
				1.8	18.3	15.6	-		
				2.5	-	15.2	-		
15	2.9	May 2	0.23	0.0	5.5	3.5	-		425
				0.5	-	3.3	-		
				1.0	5.0	3.3	-		
				1.5	-	3.5	-		
				2.0	4.7	3.5	-		
				2.5	-	3.5	-		
				2.8	-	3.5	-		
		June 5	0.20	0.0	7.8	16.8	-	7.00	410
				0.5	-	16.8	-		
				1.0	7.2	16.7	-		
				1.5	-	16.7	-		
				2.0	7.6	16.6	-		
				2.5	-	16.6	-		
				2.8	-	16.1	-		
		July 30	0.35	0.0	14.8	24.1	-	7.90	360
				0.5	-	24.1	-		
				1.0	14.6	24.1	-		
				1.5	-	24.1	-		
				1.9	14.8	24.1	-		
				2.5	-	24.1	-		
				2.8	-	24.0	-		
		Sept. 7	0.16	0.0	16.9	15.5	-	8.30	410
				0.5	-	15.5	-		
				1.0	20.2	15.5	-		
				1.5	-	15.5	-		
				2.0	16.9	15.5	-		
				2.5	-	15.1	-		
				2.8	-	15.0	-		
16	2.9	May 2	0.23	0.0	4.0	4.0	12.4 (94.4)	-	390
				0.5	-	4.0	-		
				1.0	5.2	4.0	12.6 (96.2)		
				1.5	-	4.0	-		
				2.0	5.3	3.5	12.5 (94.0)		
				2.5	-	3.1	-		
				2.8	-	3.1	-		
		June 3	0.19	0.0	7.8	14.3	9.3 (91.2)	7.00	425
				0.5	-	14.5	-		
				1.0	7.4	14.5	9.2 (90.2)		
				1.5	-	14.5	-		
				2.0	8.0	14.6	9.2 (91.1)		
				2.5	-	14.7	-		
				2.8	-	14.3	-		
		July 30	0.38	0.0	8.8	24.2	7.7 (92.8)	7.85	365
				0.5	-	24.2	-		
				1.0	10.6	24.2	7.8 (94.0)		
				1.5	-	24.2	-		
				1.9	10.1	24.1	7.4 (89.2)		

Table 3. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g } \text{L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) $\text{mg } \text{L}^{-1}$	pH	Conductivity $\mu\text{S } \text{cm}^{-1}$
16(cont.)				2.5	-	24.0	-		
				2.8	-	23.9	-		
		Sept. 7	0.14	0.0	20.9	15.5	9.3 (93.9)	8.20	418
				0.5	-	15.5	-		
				1.0	16.9	15.5	9.4 (95.0)		
				1.5	-	15.5	-		
				2.0	14.4	15.5	9.1 (91.9)		
				2.5	-	15.1	-		
				2.8	-	15.1	-		
17	2.8	May 2	0.23	0.0	4.6	4.5	-	-	390
				0.5	-	4.0	-		
				1.0	4.7	4.0	-		
				1.5	-	4.0	-		
				2.0	4.0	4.0	-		
				2.5	-	4.0	-		
				2.8	-	3.3	-		
		June 3	0.18	0.0	11.6	14.5	-	7.00	445
				0.5	10.3	14.6	-		
				1.0	10.5	14.6	-		
				1.5	-	14.6	-		
				2.0	-	14.6	-		
				2.5	-	14.6	-		
				2.8	-	14.1	-		
		July 30	0.40	0.0	20.7	24.2	-	7.80	350
				0.5	-	24.2	-		
				1.0	15.0	24.2	-		
				1.5	-	24.2	-		
				2.0	14.0	24.2	-		
				2.5	-	24.1	-		
				3.0	-	24.1	-		
		Sept. 7	0.16	0.0	24.7	15.5	-	8.40	415
				0.5	-	15.5	-		
				1.0	20.5	15.5	-		
				1.5	-	15.5	-		
				2.0	20.5	15.5	-		
				2.5	-	15.2	-		
				2.8	-	15.2	-		
18	1.2	May 2	0.28	0.0	3.2	6.2	11.9 (96.0)	-	350
				0.5	3.3	6.2	11.1 (89.5)		
				1.0	-	6.1	-		
		June 3	0.18	0.0	9.1	14.0	9.1 (88.3)	7.00	445
				0.5	10.8	14.0	9.0 (87.4)		
				1.0	-	14.0	-		
		July 30	0.50	0.0	16.8	24.9	7.9 (96.3)	7.65	360
				0.5	19.3	24.9	7.8 (95.1)		
				1.0	-	24.8	-		
				1.5	-	24.8	-		
		Sept. 7	-	0.0	19.5	16.5	9.8 (101.0)	8.50	395
				0.5	21.7	16.5	9.8 (101.0)		
				1.0	-	16.1	-		
19	2.5	May 2	0.24	0.0	7.3	5.3	-	-	375
				0.5	-	5.0	-		
				1.0	4.8	5.0	-		
				1.7	4.4	4.8	-		
				2.0	-	4.0	-		
				2.4	-	4.0	-		
		June 5	0.25	0.0	4.9	17.8	-	7.90	400
				0.5	-	17.7	-		
				1.0	6.4	17.7	-		
				1.7	6.6	17.6	-		

Table 3. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
19(cont.)				2.0	-	17.5	-		
				2.4	-	17.5	-		
		July 30	0.30	0.0	53.1	24.5	-	7.95	350
				0.5	-	24.5	-		
				1.0	50.6	24.5	-		
				1.7	31.1	24.4	-		
				2.0	-	24.3	-		
				2.4	-	24.2	-		
		Sept. 7	0.16	0.0	25.4	16.0	-	8.30	405
				0.5	-	16.0	-		
				1.0	21.8	16.0	-		
				1.5	25.8	16.0	-		
				2.0	-	16.0	-		
20	1.3	May 2	0.28	0.0	3.9	6.5	12.7 (103.3)	-	360
				0.5	3.6	6.5	12.4 (100.8)		
				1.0	-	6.2	-		
		June 5	0.23	0.0	4.6	18.2	9.0 (95.7)	7.00	405
				0.5	5.7	18.1	8.7 (92.6)		
				1.0	-	18.1	-		
		July 30	0.45	0.0	265.9	24.6	8.1 (98.8)	7.85	365
				0.5	26.3	24.8	7.9 (96.3)		
				1.0	-	24.8	-		
				1.5	-	24.8	-		
		Sept. 7	0.16	0.0	29.5	16.1	8.9 (90.8)	8.10	370
				0.5	28.4	16.1	9.0 (91.9)		
				1.0	-	16.1	-		

Table 4. Physical and chemical data, Dauphin Lake, 1985.

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
1	1.2	June 12	0.25	0.0	6.5	16.5	10.0 (103.1)	8.43	499
				0.5	8.2	16.0	10.8 (110.2)		
				0.8	-	15.5	-		
		July 31	0.29	0.0	8.8	20.1	8.6 (95.6)	8.60	473
				0.5	10.1	20.1	8.7 (96.7)		
				1.0	-	20.1	-		
		Oct. 2	0.31	0.0	7.1	5.0	12.1 (94.5)	8.46	489
				0.5	7.8	5.0	12.0 (93.8)		
				1.0	-	5.0	-		
2	1.3	June 12	0.26	0.0	4.8	17.8	10.0 (106.4)	8.50	503
				0.5	5.9	17.0	10.2 (106.3)		
				1.1	-	16.3	-		
		July 31	0.36	0.0	8.2	21.2	8.6 (97.7)	8.50	483
				0.5	7.4	20.7	8.8 (98.9)		
				1.0	-	20.4	-		
		Oct. 2	0.39	0.0	8.2	5.1	12.0 (93.8)	8.48	499
				0.5	8.0	5.1	12.1 (94.5)		
				1.0	-	5.1	-		
3	2.4	June 12	0.22	0.0	7.1	18.0	10.8 (114.9)	8.48	476
				0.5	-	15.3	-		
				1.0	6.5	15.0	10.4 (104.0)		
				1.5	-	15.0	-		
				2.0	8.0	14.9	10.5 (104.0)		
				2.5	-	14.8	-		
		July 31	0.30	0.0	8.2	19.8	8.6 (94.5)	8.48	476
				0.5	-	19.8	-		
				1.0	8.4	19.6	8.3 (91.2)		
				1.5	7.4	19.5	8.3 (91.2)		
				2.0	-	19.5	-		
				2.5	-	19.4	-		
		Oct. 2	0.31	0.0	8.2	4.8	12.2 (94.6)	8.53	492
				0.5	-	4.8	-		
				1.0	8.2	4.8	12.1 (93.8)		
				1.5	8.0	4.8	12.1 (93.8)		
				2.0	-	4.5	-		
				-	-	-	-		
9	2.9	June 12	0.25	0.0	5.5	18.6	10.2 (109.7)	8.49	471
				0.5	-	17.8	-		
				1.0	5.7	15.2	10.6 (106.0)		
				1.5	-	15.0	-		
				2.0	6.7	15.0	10.5 (105.0)		
				2.5	-	15.0	-		
		July 31	0.33	0.0	3.8	20.2	8.4 (93.3)	7.90	503
				0.5	-	19.9	-		
				1.0	5.9	19.5	8.3 (91.2)		
				1.5	-	19.5	-		
				2.0	5.3	19.4	8.3 (91.2)		
				2.5	-	18.7	-		
		Oct. 2	0.36	0.0	8.0	4.9	12.3 (96.1)	8.49	497
				0.5	-	4.7	-		
				1.0	8.6	4.7	12.3 (95.4)		
				1.5	-	4.7	-		
				2.0	8.2	4.7	12.3 (95.4)		
				2.5	-	4.5	-		
15	2.9	June 12	0.27	0.0	6.7	16.2	10.4 (106.1)	8.54	508
				0.5	-	16.1	-		
				1.0	-	16.5	10.3 (106.2)		
				1.5	6.7	16.0	-		
				2.0	6.3	15.9	10.0 (102.0)		
				2.5	-	15.0	-		

Table 4. continued

Station Number	Mean Station Depth m	Date	Secchi m	Sampling Depth m	Chlor. $\mu\text{g L}^{-1}$	Temp. $^{\circ}\text{C}$	Dissolved O_2 (% saturation) mg L^{-1}	pH	Conductivity $\mu\text{S cm}^{-1}$
15(cont.)				3.0	-	14.8	-		
		July 31	0.42	0.0	4.2	21.7	8.8 (101.2)	7.40	487
				0.5	-	20.1	-		
				1.0	6.7	19.9	8.7 (96.7)		
				1.5	-	19.6	-		
				2.0	5.9	18.7	-		
				2.5	-	18.5	-		
		Oct. 2	0.40	0.0	9.0	5.0	12.2 (95.3)	8.48	495
				0.5	-	5.0	-		
				1.0	9.0	5.0	12.2 (95.3)		
				1.5	-	5.0	-		
				2.0	9.9	5.0	12.2 (95.3)		
				2.5	-	5.0	-		
20	1.4	June 12	0.30	0.0	5.9	17.6	10.3 (108.4)	8.51	481
				0.5	5.7	17.4	9.8 (103.2)		
				1.0	-	17.2	-		
		July 31	0.53	0.0	6.5	23.5	9.3 (110.7)	8.20	505
				0.5	8.4	22.0	9.3 (106.9)		
				1.0	-	21.2	-		
		Oct. 2	0.35	0.0	9.9	5.3	12.2 (96.1)	8.51	495
				0.5	9.2	5.1	12.1 (94.5)		
				1.0	-	5.1	-		

Table 5. Chemical analyses of water samples from Dauphin Lake, 1983.

Station Number	Date	S.R.SI.	Na	K	Ca	Mg	Fe	Mn	Cl	SO ₄	T.S.S.	NO ₃ ⁻ N	T.D.M.	T.D.P.	Susp. P.	Susp. M.	Susp. C.	D.I.C.	D.O.D.
$\mu\text{g L}^{-1}$																			
mg L^{-1}																			
$\mu\text{Mole L}^{-1}$																			
1	May 26 June 20 July 18 Aug. 15	6.47 5.12 7.36 5.89	17.9 20.3 16.3 18.0	4.13 5.20 4.65 5.87	59.0 51.8 53.1 39.5	18.8 24.4 20.9 20.1	0.07 0.03 0.07 0.04	0.01 <0.01 <0.01 <0.01	16.0 16.0 8.0 13.0	65.0 66.0 61.0 68.0	23 11 26 96	40 <1 2 <1	730 560 570 480	26 25 18 25	28 19 52 -	21 75 251 384	1060 800 1640 5080	3680 3190 3500 2900	1270 1170 910 670
2	March 1* May 26 June 20 July 18 Aug. 15	9.55 4.36 4.29 5.31 5.62	36.2 11.9 18.0 16.9 17.6	8.94 3.23 5.16 5.16 5.57	84.2 39.9 45.5 45.0 36.5	37.9 14.4 21.4 21.0 19.8	0.05 0.07 0.16 <0.04 <0.04	0.02 <0.01 <0.01 <0.01 <0.01	22.0 10.0 12.0 10.0 13.0	120.0 49.0 70.0 64.0 66.0	8 22 23 13 34	124 11 <1 <1 2	900 540 440 450 570	67 22 32 12 22	15 38 25 33 -	36 78 20 277 291	490 640 500 2100 2820	5850 2630 3050 2950 2700	810 900 1000 620 660
3	March 1* May 26 June 20 July 18 Aug. 15	8.96 3.64 3.93 5.05 5.21	34.0 13.1 16.8 17.6 17.4	8.33 4.49 4.84 5.46 5.37	73.3 33.3 41.1 46.8 35.2	35.2 13.1 19.4 20.6 19.5	<0.05 0.10 0.06 0.39 <0.04	0.02 <0.01 <0.01 <0.01 <0.01	24.0 9.0 12.0 11.0 13.0	116.0 48.0 66.0 66.0 65.0	3 36 27 29 55	118 96 <1 <1 <1	840 550 450 470 530	63 21 26 31 36	12 69 32 58 -	65 228 98 205 486	630 1870 1120 1600 3950	6440 2310 3100 2900 2350	870 850 770 520 570
4	May 26 June 20 July 18 Aug. 15	3.32 4.07 5.17 5.08	11.6 17.6 17.9 17.4	4.49 5.20 5.37 5.67	32.4 41.9 44.6 38.0	11.7 20.1 20.4 19.7	0.13 0.03 0.07 0.07	<0.01 <0.01 <0.01 <0.01	8.0 12.0 11.0 13.0	42.0 69.0 67.0 66.0	38 25 26 83	173 <1 4 <1	610 430 420 470	21 26 33 30	66 29 53 -	135 - 189 435	1260 - 1520 4790	2160 2950 3050 2600	690 790 570 560
5	May 26 June 23 July 19 Aug. 15 Sept. 28	3.94 4.71 5.12 5.94 6.89	17.4 19.5 18.0 19.0 16.3	4.85 5.37 5.37 5.87 4.85	36.6 46.4 44.6 40.2 42.7	16.5 21.9 20.0 21.7 21.1	0.03 0.03 0.07 0.04 0.20	<0.01 <0.01 <0.01 <0.01 <0.01	12.0 13.0 12.0 14.0 14.0	60.0 78.0 68.0 70.0 71.0	38 25 19 49 246	<1 2 <1 <1 103	390 470 440 560 570	16 27 22 19 57	56 34 59 -	204 98 417 438 615	2600 1090 2440 3890 9960	2630 3400 2900 2850 3100	730 870 590 640 900
6	May 24 June 23 July 20 Aug. 15	4.44 4.32 4.90 6.35	20.2 18.8 17.6 18.1	5.74 5.41 5.46 5.67	40.9 45.5 43.9 41.3	18.8 22.4 20.3 20.3	<0.03 0.03 0.04 0.07	<0.01 <0.01 <0.01 <0.01	13.0 14.0 11.0 13.0	69.0 74.0 62.0 68.0	12 22 15 82	<1 <1 <1 4	420 440 450 490	14 27 27 38	29 29 43 -	63 121 267 368	590 1420 1570 3960	2850 2950 2700 3050	680 790 530 610
7	May 24 June 21 July 20 Aug. 18	5.17 4.35 4.86 5.76	20.8 19.8 18.0 19.4	4.85 5.28 5.46 5.67	60.1 48.2 44.8 41.1	20.0 23.1 20.5 21.1	0.17 0.03 0.04 <0.04	<0.01 <0.01 <0.01 <0.01	5.0 13.0 10.0 14.0	80.0 80.0 69.0 67.0	89 13 9 24	66 <1 <1 2	830 480 480 520	36 25 14 32	86 25 38 -	171 98 277 282	2890 1100 1670 2800	3870 3000 2750 2800	1170 760 660 680
8	March 2* May 24 June 21 July 20 Aug. 18	9.18 4.15 3.65 4.73 5.98	37.0 18.2 14.8 19.3 17.5	8.54 5.56 4.67 5.36 5.87	80.9 36.6 38.4 41.0 41.4	37.4 16.8 17.7 18.8 20.7	0.05 <0.03 0.06 <0.04 <0.04	0.02 <0.01 <0.01 <0.01 <0.01	24.0 14.0 8.0 10.0 12.0	124.0 63.0 41.0 66.0 67.0	3 13 27 11 25	146 <1 <1 <1 <1	880 420 430 470 520	91 17 27 16 38	9 27 31 41 -	34 66 65 502 224	440 540 750 2650 2060	6960 2610 2550 2650 2700	1090 660 530 590 650

Table 5. continued

Station Number	Date	S.R.SI.	Na	K	Ca	Mg	Fe	Mn	Cl	SO ₄	T.S.S.	NO ₃ -N	T.D.N.	T.D.P.	Susp. P.	Susp. N.	Susp. C.	D.I.C.	D.O.C.
							mg L ⁻¹							μg L ⁻¹					μMole L ⁻¹
9	May 24	4.03	18.5	5.56	40.4	18.0	<0.03	<0.01	14.0	68.0	12	<1	460	15	29	141	1510	2760	640
	June 21	3.43	13.9	4.43	39.3	17.1	0.09	<0.01	17.0	54.0	29	<1	480	26	35	101	1100	2700	660
	July 20	4.67	16.9	5.36	46.5	20.0	0.04	<0.01	10.0	63.0	10	<1	440	16	48	359	2000	2700	680
	Aug. 18	6.35	17.3	5.77	42.5	19.9	0.11	<0.01	12.0	67.0	32	5	580	46	-	250	2700	2700	650
	Sept. 26	7.37	15.6	5.04	43.0	20.7	0.16	0.01	16.0	70.0	40	101	570	63	47	158	1630	3000	970
10	May 24	3.44	22.3	7.90	40.9	17.1	<0.03	<0.01	13.0	67.0	15	<1	470	15	31	99	910	2740	760
	June 21	4.24	18.0	5.12	42.8	20.5	0.06	<0.01	11.0	70.0	27	22	480	28	33	101	1210	3350	840
	July 20	4.86	18.5	5.77	46.9	20.3	0.04	<0.01	12.0	65.0	11	<1	440	22	46	316	1870	2900	570
	Aug. 18	6.61	23.5	5.57	43.2	24.2	0.07	<0.01	27.0	86.0	38	4	520	44	-	221	2080	2950	640
11	May 24	3.36	17.5	5.38	42.7	17.9	<0.03	<0.01	14.0	66.0	14	<1	490	16	32	192	1690	2820	700
	June 21	4.58	19.6	5.32	45.5	22.2	0.06	<0.01	12.0	78.0	25	2	480	30	32	111	1180	3450	820
	July 20	4.92	17.3	5.67	44.5	20.6	0.04	<0.01	12.0	66.0	13	<1	410	50	36	120	1220	2900	600
	Aug. 18	6.47	18.0	5.87	39.1	20.3	0.11	<0.01	13.0	69.0	36	<1	530	42	-	224	2260	2750	640
12	May 24	3.95	18.0	5.20	43.2	18.8	<0.03	<0.01	14.0	70.0	8	<1	510	16	27	123	980	2890	710
	June 21	4.64	18.3	5.12	43.7	21.5	0.03	<0.01	13.0	79.0	28	<1	500	28	37	90	1070	3000	670
	July 19	4.98	17.8	5.67	38.9	19.9	0.04	<0.01	11.0	68.0	17	<1	470	17	81	790	4590	2650	560
	Aug. 18	6.29	17.6	5.77	36.2	19.3	0.07	<0.01	13.0	69.0	17	2	600	27	-	342	2590	2700	710
	Sept. 27	7.15	15.5	5.04	-	-	0.20	0.01	16.0	72.0	59	69	540	57	77	258	2610	2900	970
13	May 25	3.89	21.2	5.20	61.1	24.2	0.03	<0.01	16.0	104.0	17	<1	620	15	34	156	1310	3660	1060
	June 22	3.96	16.7	4.84	62.5	25.8	0.03	<0.01	9.0	86.0	7	8	-	19	18	71	750	3700	1010
	July 19	4.67	15.8	5.06	56.5	23.1	0.04	<0.01	7.0	73.0	12	<1	630	15	38	241	2070	3650	1030
	Aug. 17	6.63	16.1	5.46	40.7	19.8	<0.04	<0.01	11.0	67.0	16	<1	540	28	-	166	1680	3100	680
	March 24	8.47	34.0	8.54	67.8	32.4	0.05	0.02	22.0	112.0	2	66	750	73	5	39	510	6170	970
14	May 25	4.90	19.8	5.56	48.8	22.0	<0.03	<0.01	14.0	84.0	15	<1	490	22	31	107	1110	3220	920
	June 22	4.21	19.5	5.32	45.5	21.9	0.03	<0.01	11.0	74.0	16	3	500	24	22	97	1240	3250	920
	July 19	4.40	15.3	5.06	43.5	18.6	<0.04	<0.01	8.0	63.0	10	<1	520	13	37	430	2820	2700	640
	Aug. 17	6.25	16.5	5.57	38.4	19.2	<0.04	<0.01	12.0	67.0	23	<1	540	34	-	272	2180	2900	650
	March 24	7.96	31.5	8.33	70.0	32.4	0.05	0.02	24.0	98.0	4	66	710	70	5	28	460	5830	960
15	May 25	4.97	20.7	6.28	45.6	21.0	<0.03	<0.01	15.0	80.0	11	<1	470	24	26	130	1010	3190	810
	June 22	3.62	15.0	4.47	38.4	17.8	0.03	<0.01	12.0	60.0	16	2	420	25	23	61	850	2450	740
	July 19	4.48	16.6	5.26	45.8	20.6	<0.04	<0.01	1.0	66.0	12	<1	470	14	39	440	3530	2550	590
	Aug. 17	6.69	16.4	5.67	41.4	19.7	0.04	<0.01	12.0	67.0	39	<1	500	46	-	269	2570	2900	590
	May 25	4.91	20.7	6.10	45.1	21.2	<0.03	<0.01	16.0	79.0	9	<1	430	16	25	120	1090	3170	790
16	June 22	3.59	15.0	4.59	38.4	17.5	0.03	<0.01	9.0	59.0	20	3	470	21	28	74	780	2600	800
	July 19	4.96	17.1	5.36	42.3	19.0	0.04	<0.01	2.0	66.0	13	<1	440	23	21	41	1910	2900	500
	Aug. 17	6.82	17.3	5.67	37.9	18.9	0.04	<0.01	13.0	69.0	37	<1	510	46	-	269	2600	2700	570
	Sept. 27	7.29	15.4	4.75	43.1	20.3	0.16	0.01	15.0	72.0	43	82	530	71	53	167	1750	3000	1070
	May 25	4.91	20.7	6.10	45.1	21.2	<0.03	<0.01	16.0	79.0	9	<1	430	16	25	120	1090	3170	790

Table 5. continued

Station Number	Date	S.R.SI.	Na	K	Ca	Mg	Fe	Mn	Cl	SO ₄	T.S.S.	NO ₃ -N	T.D.N.	T.D.P.	Susp. P.	Susp. N.	Susp. C.	D.I.C.	D.O.C.
mg L ⁻¹																			
μg L ⁻¹																			
μ Mole L ⁻¹																			
17	May 25	4.55	19.3	5.36	43.2	20.5	<0.03	<0.01	16.0	75.0	8	<1	490	17	26	126	1100	2980	800
	June 22	4.19	16.2	4.71	42.8	19.4	0.03	<0.01	10.0	63.0	40	<1	470	25	33	93	980	2850	640
	July 19	4.99	17.2	5.37	45.5	20.4	0.04	<0.01	4.0	67.0	12	<1	420	17	44	277	1790	2950	550
	Aug. 17	6.03	16.9	5.67	35.2	18.9	<0.04	<0.01	14.0	69.0	15	<1	570	21	-	304	2150	2400	590
18	May 25	4.42	20.3	5.38	43.2	20.2	<0.03	<0.01	16.0	76.0	12	<1	440	16	34	123	1120	3030	860
	June 22	4.24	16.7	4.92	42.8	18.9	0.06	<0.01	10.0	66.0	43	<1	480	26	61	209	2180	2850	750
	July 19	4.86	19.6	5.77	43.5	19.7	0.04	<0.01	12.0	68.0	15	3	430	19	44	205	1690	2750	480
	Aug. 17	6.04	17.1	5.67	37.6	19.8	<0.04	<0.01	13.0	69.0	11	<1	560	19	-	266	1840	2600	590
19	March 2*	7.93	30.5	7.32	62.3	30.2	0.05	0.02	12.0	104.0	4	63	720	71	8	-	-	3730	690
	May 25	4.72	20.3	5.56	44.6	20.3	<0.03	<0.01	16.0	75.0	19	<1	480	18	23	136	1340	2980	740
	June 22	3.48	14.2	4.43	40.2	17.3	0.06	<0.01	10.0	55.0	20	2	450	24	27	87	910	2750	640
	July 19	4.62	15.9	5.16	41.8	18.6	<0.04	<0.01	10.0	60.0	11	<1	460	15	46	567	3160	2550	510
	Aug. 17	6.64	16.4	5.57	40.5	19.1	0.04	<0.01	12.0	67.0	35	<1	550	27	-	253	2610	2850	610
20	May 25	4.38	18.7	5.20	43.7	20.1	<0.03	<0.01	15.0	73.0	8	2	440	18	26	136	1020	2890	810
	June 22	3.71	17.6	4.96	43.7	20.3	0.03	<0.01	11.0	69.0	14	<1	500	18	25	93	920	2800	740
	July 19	4.55	15.4	5.16	38.6	17.7	<0.04	<0.01	11.0	60.0	15	<1	470	15	41	460	3290	2600	530
	Aug. 17	6.56	16.4	5.67	41.7	19.1	0.04	<0.01	15.0	69.0	33	<1	560	22	-	253	190	3000	590
21	March 2*	9.54	35.5	9.15	80.9	36.1	0.05	0.02	24.0	120.0	5	144	810	68	14	28	510	7130	1070
	May 25	4.79	13.4	3.59	44.6	17.0	0.03	<0.01	11.0	51.0	14	2	580	19	33	133	970	2820	820
	June 20	4.41	16.0	5.04	47.3	21.5	<0.03	<0.01	11.0	72.0	13	3	490	26	20	61	630	2950	730
	July 16	6.21	17.6	5.26	50.8	21.1	0.04	<0.01	11.0	65.0	11	<1	490	20	40	196	1400	3300	650
	Aug. 15	5.74	17.9	5.77	38.0	20.0	0.04	<0.01	19.0	67.0	59	<1	570	19	-	330	3540	2850	610

* Sampled through ice.

Table 6. Chemical analyses of water samples from Dauphin Lake, 1984.

Station Number	Date	T.S.S. mg·L ⁻¹	T.D.N.	T.D.P.	Susp. P. µg·L ⁻¹	Susp. N.	Susp. C.
1	May 3	47	470	25	56	220	2820
	June 3	129	440	45	130	1004	6260
	July 29	14	540	43	36	167	1900
	Sept. 6	53	520	35	72	128	1600
	Oct. 2	95	550	60	102	405	4450
2	May 3	No samples collected due to ice.					
	June 3	132	430	36	73	531	3160
	July 29	8	470	50	25	69	1320
	Sept. 6	85	480	54	107	325	3790
	Oct. 2	49	550	65	60	250	2500
3	May 3	36	470	23	52	209	1990
	June 3	115	430	51	107	649	4630
	July 29	25	490	56	42	155	2040
	Sept. 6	171	520	57	176	409	5000
	Oct. 2	91	550	66	92	365	4230
4	May 3	42	410	27	57	289	1980
	June 3	113	430	50	110	649	4630
	July 29	22	470	61	36	99	1700
	Sept. 6	203	500	67	205	454	5910
	Oct. 2	121	530	60	122	456	5710
5	May 3	35	490	26	49	236	1840
	June 3	131	450	49	128	762	5750
	July 29	41	450	61	55	255	2710
	Sept. 6	145	550	27	172	1393	14393
	Oct. 2	208	560	48	193	739	11271
6	May 3	36	420	26	51	236	1840
	June 5	74	450	45	84	798	3960
	July 29	31	460	65	40	215	1940
	Sept. 7	101	530	50	127	544	5253
	Oct. 2	222	530	53	197	807	11686
7	May 2	44	470	21	59	255	2250
	June 5	69	480	48	84	568	3740
	July 29	56	450	51	66	279	3240
	Sept. 7	87	510	48	105	291	2947
8	May 2	37	440	23	49	198	1800
	June 5	61	430	53	62	680	3060
	July 29	32	470	50	49	248	2350
	Sept. 7	97	520	55	111	428	4973
9	May 2	37	480	23	50	199	1770
	June 5	63	460	49	68	718	2980
	July 29	29	450	56	42	190	2010
	Sept. 7	134	480	67	133	467	6040
	Oct. 3	83	470	64	197	807	11648
10	May 2	37	480	25	49	202	1760
	June 5	62	470	53	64	644	4180
	July 29	33	420	65	41	221	2120
	Sept. 7	132	490	64	139	475	5987
	Oct. 3	80	520	74	74	296	3440
11	May 3	33	490	27	52	214	1700
	June 5	65	450	53	60	79	2720
	July 29	36	440	63	41	189	2180
	Sept. 7	123	520	50	129	520	6387
	Oct. 3	90	560	75	87	315	4180

Table 6. continued

Station Number	Date	T.S.S. mg·L ⁻¹	T.D.N.	T.D.P.	Susp. P.		
					μg·L ⁻¹		
12	May 3	31	480	23	45	198	1800
	June 5	66	440	49	74	166	3280
	July 29	76	440	48	91	471	4980
	Sept. 7	125	510	30	156	652	7960
	Oct. 3	140	610	56	138	548	7700
13	May 2	49	390	21	55	240	2280
	June 5	64	440	44	68	98	3540
	July 30	29	650	21	56	454	3260
	Sept. 7	28	540	25	64	268	2760
14	May 2	53	400	21	55	261	2520
	June 5	56	490	51	58	130	2640
	July 30	26	510	30	57	414	2750
	Sept. 7	85	510	46	111	415	5013
15	May 2	46	460	25	54	235	2170
	June 5	52	440	52	53	123	2400
	July 30	27	510	50	44	296	2240
	Sept. 7	93	510	48	107	401	4947
16	May 2	42	420	21	55	231	2150
	June 3	126	430	46	121	291	4920
	July 30	24	480	61	39	217	1870
	Sept. 7	114	530	50	124	439	5560
17	May 2	33	420	18	45	209	1890
	June 3	92	460	41	128	368	6480
	July 30	22	470	54	41	269	1940
	Sept. 7	71	520	37	100	401	4507
18	May 2	23	390	14	36	176	1610
	June 3	136	440	45	135	370	6250
	July 30	34	450	70	55	367	2630
	Sept. 7	53	540	29	88	399	4187
19	May 2	40	410	19	47	214	2110
	June 5	49	450	45	53	121	2620
	July 30	26	560	23	73	655	3600
	Sept. 7	69	590	32	96	209	2520
20	May 2	28	400	15	40	195	1690
	June 5	54	450	43	65	152	3170
	July 30	19	570	21	51	420	2520
	Sept. 7	90	590	37	116	437	4973

Table 7. Chemical analyses of water samples from Dauphin Lake, 1985.

Station Number	Date	mg L ⁻¹										μg L ⁻¹										μMole L ⁻¹			
		S.R.SI.	Na	K	Ca	Mg	Fe	Mn	Cl	SO ₄	T.S.S.	S.R.P.	NH ₃ -N	NO ₃ -N	T.O.M.	T.O.P.	Susp. P.	Susp. N.	Susp. C.	D.I.C.	D.O.C.				
1	June 12	5.91	18.7	5.33	49.7	21.6	0.07	0.01	12.0	76.0	82	30	30	3	490	42	99	564	4270	3200	-				
	July 31	6.99	20.1	5.40	46.4	22.2	0.07	<0.01	13.0	72.0	57	40	20	1	490	54	78	331	3680	1600	600				
	Oct. 2	7.63	20.0	5.79	49.2	21.4	0.12	<0.01	12.0	72.0	64	66	20	50	450	80	65	240	2890	3500	-				
2	June 12	6.40	18.1	5.13	49.7	21.7	0.04	<0.01	11.0	75.0	43	27	30	<1	450	38	54	220	2430	3300	-				
	July 31	6.97	20.3	5.50	48.5	23.9	0.04	<0.01	13.0	76.0	36	34	20	1	520	50	86	335	3670	1600	610				
	Oct. 2	7.65	20.5	5.38	52.4	22.5	0.08	<0.01	11.0	67.0	44	52	20	54	470	66	55	198	2170	3600	-				
3	June 12	5.79	17.5	5.03	46.0	18.5	0.04	0.01	11.0	75.0	52	39	30	4	470	51	59	233	2570	3000	-				
	July 31	6.83	19.2	5.46	46.3	21.9	0.07	<0.01	12.0	72.0	42	45	20	1	400	59	53	232	2270	1500	560				
	Oct. 2	7.69	21.5	5.79	49.2	21.5	0.12	<0.01	12.0	71.0	64	67	20	43	490	80	65	240	2760	3500	-				
9	June 12	6.04	18.1	5.33	44.1	20.4	0.04	0.01	12.0	70.0	50	44	30	4	440	58	48	192	2060	3000	-				
	July 31	7.01	20.3	5.70	47.0	23.3	0.04	<0.01	13.0	76.0	28	44	20	1	500	58	45	219	2110	1700	560				
	Oct. 2	7.04	20.9	5.97	48.7	22.0	0.08	0.01	12.0	72.0	39	50	20	12	440	65	43	189	2180	3500	-				
15	June 12	6.63	20.0	5.72	46.9	22.1	0.04	0.01	14.0	77.0	35	44	30	3	460	59	40	186	2120	3100	-				
	July 31	7.05	20.6	5.40	47.1	22.3	0.04	<0.01	13.0	74.0	29	45	20	1	500	59	35	163	1780	1600	550				
	Oct. 2	6.92	21.0	5.78	48.7	22.0	0.08	<0.01	14.0	75.0	39	48	20	9	470	63	43	189	2140	3500	-				
20	June 12	6.23	18.7	5.42	44.6	20.8	0.04	0.01	11.0	58.0	40	39	30	13	440	55	50	201	2280	3000	-				
	July 31	6.43	20.2	5.60	45.3	23.0	0.04	<0.01	14.0	76.0	20	18	20	1	520	35	40	232	2040	1700	560				
	Oct. 2	6.98	20.2	5.78	47.8	21.9	0.08	<0.01	12.0	7.10	36	42	20	<1	470	57	40	208	2200	3500	-				

Table 8. Fork length, weight, sex, age and mercury (Hg) levels in muscle tissue of Dauphin Lake walleye from the commercial fishery, December, 1983.

No.	Fork Length mm	Weight g	Sex	Age yr+	Hg ppm
1	453	1340	F	4	0.08
2	447	1220	F	4	0.08
3	431	1070	M	4	0.06
4	490	1490	F	5	0.09
5	443	1220	M	4	0.08
6	450	1230	M	4	0.09
7	433	1040	M	4	0.08
8	487	1690	F	5	0.08
9	431	1120	M	4	0.09
10	411	950	M	4	0.08
11	430	1040	M	4	0.07
12	437	1250	M	5	0.09
13	487	1770	M	5	0.09
14	430	1090	M	4	0.10
15	423	1190	M	4	0.08
16	481	1600	F	5	0.06
17	431	1160	M	4	0.07
18	474	1470	F	4	0.06
19	426	1100	M	4	0.08
20	429	1010	M	4	0.10
21	494	1740	F	5	0.10
22	426	1000	F	4	0.06
23	453	1140	M	4	0.06
24	466	1330	F	4	0.09
25	434	1150	M	4	0.07

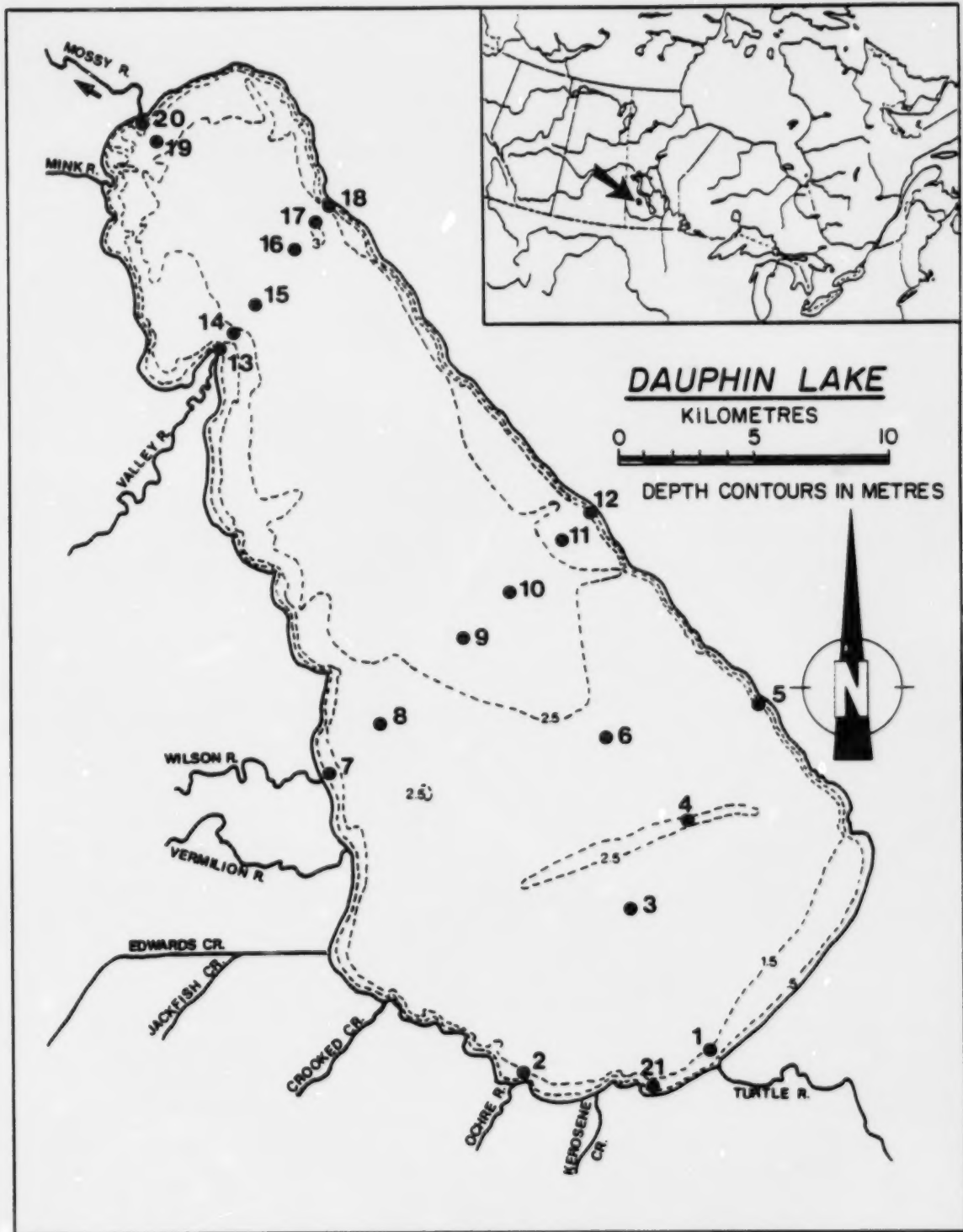


Fig. 1. Bathymetric map of Dauphin Lake showing stations sampled, 1983-1985.